

**Amendment to Claims**

1           1.       (Original). A method of combining data to arrive at a composite graphical  
2 representation of a construction site comprising, the steps of:  
3               providing subsurface mapping data;  
4               creating a subsurface model of subsurface features from the subsurface mapping  
5 data;  
6               creating a wire frame model of an above surface feature;  
7               overlaying the wire frame model with a pictorial representation of the above  
8 surface feature; and  
9               combining the wire frame model with the subsurface model to produce the  
10 composite graphical representation.

1           2.       (Original). The method of claim 1 wherein the subsurface mapping data is  
2 resistivity data.

1           3.       (Original). The method of claim 2 wherein the resistivity data is taken from an  
2 AGI SuperSting program.

1           4.       (Original). The method of claim 2 further comprising the step of removing a  
2 statistical outlier from the resistivity data.

1           5.       (Original). The method of claim 4 wherein a word processing program is used to  
2 remove the outlier.

1           6.       (Original). The method of claim 5 wherein the word processing program is  
2 WORDPAD.

1           7.       (Original). The method of claim 2 further comprising the step of performing a  
2 least squares data inversion analysis on the resistivity data.

1           8.       (Original). The method of claim 7 wherein the least squares data inversion  
2 analysis is preformed by a RES3DINV program.

1           9.       (Original). The method of claim 7 wherein the least squares data inversion  
2 analysis is performed by a RES2DINV program.

1           10.      (Original). The method of claim 2 further comprising the step of performing a  
2 kriging analysis on the resistivity data.

1           11.      (Original). The method of claim 10 wherein the analysis is preformed by  
2 SURFER software.

1           12.      (Original). The method of claim 2 further comprising the step of performing a  
2 cokriging analysis on the resistivity data.

1           13.    (Original). The method of claim 1 wherein the subsurface mapping data is ground  
2 penetrating radar data.

1           14.    (Original). The method of claim 13 wherein the ground penetrating radar data is  
2 acquired through a SIR-3000 ground penetrating radar system.

1           15.    (Original). The method of claim 13 wherein the data is enhanced.

1           16.    (Original). The method of claim 15 wherein the program Radan is used to  
2 enhance the data.

1           17.    (Original). The method of claim 1 wherein the subsurface mapping data is  
2 seismic data.

1           18.    (Original). The method of claim 17 wherein the seismic data is acquired from a  
2 SmartSeis seismic imaging system.

1           19.    (Original). The method of claim 17 wherein the data is enhanced.

1           20.    (Original). The method of claim 19 wherein the program SizeImager is used to  
2 enhance the data.

1           21.    (Original). The method of claim 1 wherein the wire frame model is created using  
2 AUTOCAD software.

1           22.     (Original). The method of claim 1 wherein the wire frame model includes  
2     a model of vegetation.

1           23.     (Original). The method of claim 1 wherein the wire frame model includes  
2     a model of a building.

1           24.     (Original). The method of claim 1 wherein the pictorial representation is  
2     an aerial photograph.

1           25.     (Original). The method of claim 24 wherein the aerial photograph is  
2     imported into EVS software.

1           26.     (Original). The method of claim 1 wherein the subsurface model  
2     comprises at least one 2-dimensional graph.

1           27.     (Original). The method of claim 1 wherein the subsurface model  
2     comprises at least one 3-dimensional graph.

1           28.     (Original). The method of claim 1 wherein the composite graphical  
2     representation is produced in Visual Reduction Modeling Language.

1           29.     (Original). The method of claim 28 wherein the graphical representation  
2     is viewed as a web page.

1           30.     (Original). The method of claim 1 comprising the further step of  
2     displaying the composite graphical representation.

1           31.     (Original). The method of claim 1 wherein the composite graphical  
2     representation can be rotated.

1           32.     (Original). The method of claim 1 wherein the pictorial representation is a  
2     representation of texture.

1           33.     (Original). The method of claim 1 including the additional step of  
2     viewing a 2-dimensional slice of the composite graphical representation.

1           34.     (Original). The method of claim 1 wherein the graphical representation is  
2     used in a .AVI file.

1           35.     (Original). The method of claim 1 wherein the wire frame model includes  
2     below surface ground structures.

1           36.     (Original). A 3-dimensional model of a construction site comprising:  
2                   a graphical model of subsurface mapping data;  
3                   a spatial model of an above ground object; and  
4                   a 2-dimensional image of the above ground object superimposed on the  
5     spatial model and spatially synchronized with the graphical model of resistivity data.

1           37.     (Original). The 3-dimensional model of claim 36 wherein the graphical  
2     model is prepared using kriging.

1           38.     (Original). The 3-dimensional model of claim 36 wherein the spatial  
2     model is prepared using AUTOCAD.

1           39.     (Original). The 3-dimensional model of claim 36 wherein the 3-  
2     dimensional model is rendered in Visual Reduction Modeling Language.

1           40.     (Original). The 3-dimensional model of claim 36 wherein the subsurface  
2     mapping data is resistivity data.

1           41.     (Original). The 3-dimensional model of claim 40 wherein the resistivity  
2     data includes data related to moisture content.

1           42.     (Original). The 3-dimensional model of claim 40 wherein the resistivity  
2     data includes data related to a void.

1           43.     (Original). The 3-dimenstional model of claim 40 wherein the resistivity  
2     data includes data related to a subsurface anomaly.

1           44.     (Original). The 3-dimenstional model of claim 40 wherein the resistivity  
2     data is derived through use of the equation:

3                     $R = (V/I)K$ ;  
4                    where K is an electrode geometric constant;  
5                    R is resistance;  
6                    V is voltage; and  
7                    I is current.

1            45.    (Original). The 3-dimensional model of claim 36 wherein the subsurface  
2 mapping data is ground penetrating radar data.

1            46.    (Original). The 3-dimensional model of claim 36 wherein the subsurface  
2 mapping data is seismic data.

1            47.    (Original). A method of creating a graphical model comprising the steps  
2 of:  
3                    testing to determine subsurface mapping data;  
4                    enhancing the data;  
5                    constructing a wire frame model of an above ground structure;  
6                    providing a pictorial representation of a plan view of the above ground  
7 structure;  
8                    combining the pictorial representation with the wire frame model;  
9                    aligning the subsurface mapping data with the combined pictorial  
10 representation and wire frame model; and

11                   merging the subsurface mapping data with the combined pictorial  
12 representation and wire frame model.

1           48.    (Original). The method of claim 47 wherein the subsurface mapping data  
2 is resistivity data.

1           49.    (Original). The method of claim 48 wherein the data is enhanced by  
2 performing a least squares data inversion analysis on the subsurface mapping data.

1           50.    (Original). The method of claim 48 wherein the data is enhanced by  
2 performing a kriging analysis on the subsurface mapping data.

1           51.    (Presently Amended). The method of claim ~~50~~ 47 wherein the step of  
2 testing includes choosing a placement for electrodes.

1           52.    (Presently Amended). The method of claim ~~50~~ 51 wherein the placement  
2 is the Wenner arrangement.

1           53.    (Original). The method of claim 51 wherein the placement is the  
2 Schlumberger arrangement.

1           54.    (Original). The method of claim 51 wherein the placement is the dipole  
2 dipole arrangement.

1           55.     (Original). The method of claim 47 wherein the step of combining is  
2     carried out with AUTOCAD software.

1           56.     (Original). The method of claim 47 wherein the step of merging is carried  
2     out with EVS software.

1           57.     (Original). The method of claim 47 wherein the step of merging results in  
2     a VRML file.

1           58.     (Original). The method of claim 47 further comprising the step of visually  
2     displaying the merged subsurface mapping data, combined pictorial representation and  
3     wire frame model.

1           59.     (Original). The method of claim 58 wherein the pictorial representation  
2     can be rotated.

1           60.     (Original). The method of claim 47 wherein the step of merging results in  
2     an HTML file.

1           61.     (Original). The method of claim 47 wherein the subsurface mapping data  
2     is ground penetrating radar data.

1           62.     (Original). The method of claim 61 wherein the program Radan is used to  
2     enhance the data.

1           63.     (Original). The method of claim 47 wherein the subsurface mapping data  
2     is seismic data.

1           64.     (Presently Amended). The method of claim ~~61~~ 63 wherein the program  
2     SizeImager is used to enhance the data.

1           65.     (Original). The method of claim 48 wherein the wire frame model  
2     includes below ground structures.